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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/641,013	08/15/2003	Masaya Iwamoto	OKI.564	8882

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EXAMINER

NGUYEN, NGOC YEN M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/641,013

Applicant(s)

IWAMOTO, MASAYA

Examiner

Ngoc-Yen M. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Safi (5,681,470).

Safi '470 discloses a method for the biodegradation treatment of a gaseous medium polluted with volatile organic solvents to produce a purified gaseous medium and a separate methane-rich and combustible gas, said method comprising the steps of:

(a) wet-scrubbing said gaseous medium with a liquid stream in a countercurrent wet scrubber to produce a purified gaseous medium and a separate liquid stream loaded with said volatile organic solvents;

(b) flowing said liquid stream loaded with the volatile organic solvents to an anaerobic bioreactor consisting of a sealed vessel containing a biomass having methanogenic bacteria adapted to transform the volatile organic solvents into said methane-rich and combustible gas and a separate liquid stream output substantially free of the volatile organic solvents;

(c) recovering said methane-rich and combustible gas by collecting said gas from said anaerobic bioreactor (note claim 1).

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Since the liquid stream used in Safi '470 is preferred to be an aqueous solution (note "water scrubber 10", column 3, lines 29-30), the bacteria in the bioreactor would have been "aquatic microbes".

The process of Safi '470 anticipates the claimed process

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 10-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safi (5,681,470).

Safi '470 discloses a process as stated in the above rejection.

Safi '470 further discloses that a buffer tank 12 is provided and is connected to the fluid transportation lines between the wet scrubber 10 and the anaerobic bioreactor 14 to allow a blending of said liquid stream loaded with the volatile organic solvents to provide a blended output stream thereby avoiding sharp peaks or drops in concentration of volatile organic solvents flowed to said anaerobic bioreactor (note column 4, lines 21-28). Various nutrients and trace heavy metals can be added to tank 12 to optimize the growth of the acidogenic and acetogenic bacteria. These bacteria partially convert the solubilized VOCs to organic acids including acetic, propionic and butyric acids (note column 4, lines 446-50). This fairly suggest that the presence of

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bacteria in the buffer tank, and the liquid in the buffer tank is considered as the "carriers" supporting bacteria.

For the actual type of bacteria, it would have been obvious to one of ordinary skill in the use to select any type of bacteria for the process of Safi '470 as long as such bacteria can decompose the VOCs solubilized in the liquid.

Claims 4, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safi '470 as applied to claims 1-3, 5, 10-12, 14 above, and further in view of Jaros et al (4,036,750).

The difference not yet discussed is Safi '470 does not disclose the step of treating the liquid-contacted organic exhaust gas with an active carbon.

Jaros '750 discloses a process for removing organic contaminants from waste water by using activated fluid coke (note claim 1). Jaros ' 750 teaches that it is known in the art to perform a secondary treating step to the waste water in order to decompose by bacteriological action, the secondary treating step generally employs vigorous aeration to allow the bacteria to continue their metabolic activity (note column 1, lines 50-60). It is also known that in order to remove the organic contaminants from waste waters, the waste waters as well as the effluent from the secondary biological treating step are treated with activated carbon (note column 3, lines 37-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further treat the liquid in Safi '470 obtained after the bioreactor,

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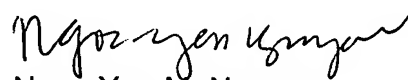
with activated carbon, as suggested by Jaros '750 because such step is conventional in the art to further remove organic contaminants from the liquid.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 or (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.


Ngoc-Yen M. Nguyen
Primary Examiner
Art Unit 1754

nmn
February 6, 2006